REMARKS

Claims 1-4 and 14-21 are pending. Claims 1, 2, 4, and 14-20 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Number 6,574,507 to Bonnet et al. Claims 3 and 21 were rejected under 35 U.S.C. §103(a) as being unpatentable over Bonnet et al. in view of U.S. Patent Number 6,126,611 to Bourgeois et al. Reconsideration is respectfully requested in light of the above claim amendments and the following remarks.

Rejection Under 35 U.S.C. §102

Claims 1, 2, 4, and 14-20 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Number 6,574,507 to Bonnet et al. Reconsideration is respectfully requested in light of the above claim amendments and the following remarks.

Applicants' claimed invention, as recited in pending independent claims 1 and 14, is directed to an implantable cardiac stimulation device. As recited in Claim 1, the device includes a physiologic sensor that is capable of sensing a physiologic parameter and generating corresponding signals, one or more pulse generators that are capable of generating cardiac pacing pulses, and circuitry connected to the sensor that is operative to detect either a resting condition or a sleep condition and that is responsive thereto to control the one or more pulse generators to pace the heart at a sleep apnea prevention rate for so long as one of the resting condition and sleep condition continues.

Thus, the claimed device is responsive to detection of either a resting condition or a sleep condition to pace the heart at a sleep apnea prevention rate for as long as the sleep or resting condition continues.

In contrast, the Bonnet et al. patent teaches detecting both a sleep apnea event and a sleep condition and, if both conditions are satisfied, then overdrive pacing the heart. As explicitly stated at Column 9, lines 8-11, "[t]he stimulation at the higher rate is applied for a given period of time, for example, sixty seconds and afterwards the device reverts to the former mode of operation, e.g., the lower stimulation frequency." Thus,

nowhere do Bonnet et al. teach or in any way suggest delivering sleep apnea prevention pacing as soon as a sleep or resting state is detected, and to **continue** delivering the sleep apnea prevention pacing for so long as the sleep or resting state continues. Bonnet et al. is concerned with **terminating** a sleep apnea event, whereas Applicants' claim 1 is intended to **prevent** sleep apnea events from occurring, which explains why Bonnet et al. only deliver overdrive pacing for very short periods of time (in response to a sleep apnea event), while Applicants' claim 1 delivers sleep apnea prevention pacing for so long as the patient is in the sleeping or resting condition (in an effort to prevent sleep apnea events from occurring).

Claim 18, as amended, is directed to a method of operating an implantable cardiac stimulation device, and has been amended to include the closed-ended transitional phrase "consisting of". Claim 18 recites two steps: detecting one of a resting condition and a sleep condition; and generating cardiac pacing pulses at a sleep apnea prevention rate in response to detection of one of the resting condition and the sleep condition.

Thus, claim 18 is operative to apply pacing pulses at a sleep apnea prevention rate based solely on the detection of a resting or sleep condition, as called for by the transitional phrase "consisting of". In contrast, Bonnet et al. requires **both** the detection of a sleep apnea event and detection of a sleep condition before overdrive pacing is delivered. Therefore, it is respectfully submitted that claim 18 is patentable over Bonnet et al.

Rejection Under 35 U.S.C. §103

Claims 3 and 21 were rejected under 35 U.S.C. §103(a) as being unpatentable over Bonnet et al. in view of U.S. Patent Number 6,126,611 to Bourgeois et al. As described above, Bonnet et al. only apply the overdrive pacing pulses in response to detection of both a sleep apnea event and a sleep condition, and furthermore only apply the overdrive pacing pulses for very short periods of time. Similarly, Bourgeois et al. disclose a system that provides sleep apnea **termination** pacing only in response to detection of an actual sleep apnea event, as is clearly shown in FIG. 1.

Thus, neither reference, whether taken alone or in combination, teach or suggest a system that applies sleep apnea preventive pacing for so long as the patient remains in a sleep or rest condition, as is called for in claims 1 and 14, nor does either reference teach a method of applying sleep apnea preventive pacing solely upon detecting a sleep or rest condition. Both references require the detection of an actual sleep apnea event before applying overdrive pacing.

CONCLUSION

In light of the above claim amendments and remarks, it is respectfully submitted that the application is in condition for allowance, and an early notice of allowance is requested.

Respectfully submitted,

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